

**The Evaluation of COTS Software Packages:
Web Development
in a Small Business Environment**

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Plan the Evaluation

ChatWorx Systems is an emerging internet relay chat company. The company consists of eight programmers and a business management major, named George, who were friends and formed the company coming out of college. They are preparing to release their first application, TalkWorx, which may become revolutionary if it reaches enough of the market.

Problem: The program has been in Beta testing, but since there is no one in the company with any significant web experience, visitors to the site have not been encouraged to try the Beta software. The company recently purchased a new PC-based network/web server and plans on rebuilding the site from the ground up.

Outcome of the Evaluation: As a result of the evaluation, ChatWorx Systems will select the web design software that best suits their needs (ease of use and professional quality).

Decision Risk: If the appropriate solution is not chosen, then the company is faced with the possibility of going out of business.

Decision Maker: George will be the decision maker for the company. He already takes care of finances and the business end of the company, and the others trust him to make the right decision (because if he finds it easy to use, they are sure they will too).

Resources: The new PC-based network/web server has already permitted better speed for the site (which was running on an extra PC before). The loan they had taken out to purchase the server was

intentionally left a few hundred dollars in excess, anticipating the purchase of quality software for the server.

Stakeholders: The programmers who will be constructing the web site are the primary stakeholders in the decision.

Alternatives: ChatWorx has decided to look at Macromedia's Dreamweaver 2, Allaire's HomeSite 4.0, and Microsoft's FrontPage 98. These options were narrowed using word of mouth, magazine reviews, and the observation of various sites using these tools.

Nature of Evaluation Context: The evaluation will take place with the use of demo software on George's PC and on-line presentations that are given for the products. Much further testing (through implementation) could cause the delay of the release of their software and cost the company more than it can afford.

Requirements Document

Problem Statement

This document is to be used to help select a web development application for ChatWorx Systems. The software will be used to create web pages that will be the primary source for Beta testing trials and possibly sales in the future.

Requirements

Functional:

→ Create web pages with professional results

- pages must be professional as possible to entice visitors to try the Beta versions of ChatWorx products
- this is a necessary requirement
- submitted by Lenny (programmer)
- may be slightly more difficult than current text/HTML format

→ Web site tracker/manager

- because the site will consist of many pages, it will be useful to have a manager for keeping the flow of the site (i.e. it will minimize access errors)
- this is a necessary requirement (errors must be at a minimum to increase professionalism)
- submitted by George
- program may be larger, and more training may be necessary

Non-Functional:

→ the system needs to be PC based

- with the new PC network/web server that was purchased, the software package needs to be able to operate on that system
- this is a necessary requirement
- submitted by Ben, who had been head of the server purchase committee
- limits the choice of software somewhat

→ The system should be easy to use and reasonably quick

- with products ready for testing, the software selected should allow a new site to be created with limited training and in a fairly short amount of time
- this requirement is highly preferred
- submitted by George
- the software may not be quite as powerful

→ support for the product should be provided

- with the company planning to grow, and limited web experience currently within the company, it would be very helpful for support to be provided on the product
- this requirement is highly preferred
- submitted by Carl (programmer)
- there are limited tradeoffs of this requirement

→ Both the vendor and the software should be reliable and reputable

- support may be needed in the future, and one must be sure that the company will be there to provide that assistance
- this requirement is preferred
- submitted by George and Carl
- may again cut down on options

→ The program should be update-able

- with the current organization and finances of ChatWorx, a system that can be easily updated at a limited cost is preferable; updates should help the company page remain professional and cutting-edge
- this requirement is preferred
- submitted by Lenny
- may rule out more traditional, unchanging formats

→ Cost

- though money has been allotted to purchase the software, it should not have any extravagant cost
- this requirement is preferred
- submitted by George
- could potentially rule out the “best” software if it has a high cost

Summary

These requirements should be met as completely as possible by the software chosen. With preferred requirements, the tradeoff for choosing or not choosing a requirement must be carefully weighed to consider the goals of the company. Remember that this decision could very well determine the future of ChatWorx Systems.

Basic Product Information

In the initial phases of product investigation, George spent some time visiting the web sites for the three packages being considered. The following is a copy of the notes he took on each software package.

HomeSite

- Costs \$99
- Win 95/98 and NT 4.0 versions only
- MS Internet Explorer as internal browser
- What You See Is What You Need structuring (WYSI WYN)
- Built in FTP
- HTML Dependant
- Online Resource Forums and Classes Offered Nationally
- Limited Management

Dreamweaver

- Uses Roundtrip HTML (?)
- Costs \$299 (with Macromedia's Fireworks for animation for \$399)
- Win and Mac platforms
- Backwards compatible
- Supports Multiple Tag Sets
- What You See Is What You Serve structuring (WYSI WYS)
- Program is open for integration
- Visual Site Management

FrontPage 98

- No Programming Required
- Costs \$149
- MS Internet Explorer Integration
- Includes Simple Image Editing Tools
- One-button Publishing
- Wizards available for many tasks
- What You See Is What You Get structuring (WYSI WYG)
- Includes themes for use on pages
- Visual Navigation Manager
- Internal Previewing
- Has MS Office Integration (many similarities)

Assessment Plan

After careful consideration of the formal requirements document, George has come up with a method to assess these requirements to select the best product. First George will attempt to create a fairly simple page on his own with the evaluation version of the product. Since he has already found out that FrontPage does not have such an evaluation version, he will have to assess the product using the online demonstration that is available. Each of the products being evaluated should be able to perform this test, but the question is how well each package does the task.

Next, George will evaluate how well each product satisfied the requirements that the company assembled using a numerical scale. On the scale, a rating of 5 will be “excellent”, and a rating of 1 will be “poor”. A rating of 0 will be used if the product does not satisfy the requirement in any way. A product that may be selected should score at least a 3, an average score, in each of the necessary requirements. It is unacceptable for a package to not be able to meet this standard. If a package is found to be as such, it will be no longer considered.

After each product is evaluated, its score on a particular requirement will be multiplied by a certain amount of preference points. These points will be given as follows: 10 points for a necessary requirement, 5 for a highly preferred requirement, and 3 for a preferred requirement. Once all requirements are assessed and then multiplied by their preference points, the points will be summed. The product with the most points at the end of the assessment will most likely be selected. This assessment process can be represented in the following tables.

Product Assessment Tables

Requirements >	Professional (x10)	Site Manager (x10)	PC Based (x10)	Easy & Quick (x5)
HomeSite				
Dreamweaver				
FrontPage				

Requirements >	Support (x5)	Reliability (x3)	Updating (x3)	Cost (x3)
HomeSite				
Dreamweaver				
FrontPage				

Results of Assessment

Allaire HomeSite 4.0

The following tables are the results of the testing and evaluation George did on HomeSite.

Requirements >	Professional (x10)	Site Manager (x10)	PC Based (x10)	Easy & Quick (x5)
HomeSite	4 (40)	4 (40)	5 (50)	2 (10)

Requirements >	Support (x5)	Reliability (x3)	Updating (x3)	Cost (x3)
HomeSite	4 (20)	3 (9)	3 (9)	5 (15)

When HomeSite was evaluated, there were no tests or measurements that could not be carried out. The estimated cost for the package is \$99.

The HomeSite package finished with a score of 193 out of 245 possible points. The package was hurt primarily by the ease of use and some by the professional quality. This is because HomeSite is very HTML oriented. The company had problems in the first place using HTML code, and HomeSite appeared to be pretty much a dressed-up HTML editor. The package was able to fulfill the need for professional pages well, but accomplishing the desired results was no small task. It would take much time to learn how to get these results, which would require a fair amount of training. If this product were able to make its graphical editing interface more usable, this product would be much more appealing.

Most of the other requirements that were observed were very well fulfilled. Reliability and reputation was only left with an average score because the company is still growing and establishing its hold in the market. Updating also received an average score because the product fell into the “new product version, new purchase” mold.

Allaire HomeSite fulfilled the needed requirements as well as any other product evaluated. Unfortunately, some of the preferred requirements were not quite filled to the liking of George.

However, it still appears that HomeSite is a quality product. The package just doesn't fit into the current scheme of ChatWorx.

Macromedia Dreamweaver 2

The following tables are the scores that George gave Dreamweaver in its testing and evaluation.

Requirements >	Professional (x10)	Site Manager (x10)	PC Based (x10)	Easy & Quick (x5)
Dreamweaver	5 (50)	5 (50)	5 (50)	4 (20)

Requirements >	Support (x5)	Reliability (x3)	Updating (x3)	Cost (x3)
Dreamweaver	5 (25)	4 (12)	5 (15)	4 (12)

During the evaluation of Dreamweaver there were no requirements that could not be tested or measured. The cost of this product is \$299, or it is available with the company's Fireworks program (used for graphics and animation) for \$399.

Dreamweaver finished with a score of 234 out of 245, the highest of the evaluated products. The product managed to fulfill all three of the necessary requirements above and beyond the expectations of the ChatWorx company. Dreamweaver proved itself to be an extremely powerful tool. It started off as a great tool that was easy to use, and as the user became more experienced, more options were available to add into pages. Two other big pluses to Dreamweaver were the extensive support (extensive manuals, packaged software support, phone support, online documentation, online forums, e-mail support) and the free updating for at least six months from the purchase date. This latter point was discovered when George learned that users who purchased V1.2 back in October are currently given the opportunity to upgrade to V2.0 at no cost. The other requirements were met a bit above expectations. The editor was not quite as easy to use as the solitaire program, but going through the provided tutorial makes it almost that easy. There were no requirements that were not well satisfied in the testing of Dreamweaver.

Macromedia Dreamweaver is definitely a great web creation and management utility. It met the requirements that ChatWorx set forth better than any of the other evaluated products. With its great results and minimal training, it seems to make Dreamweaver fit well in the ChatWorx company.

Microsoft FrontPage 98

The following tables are the results of the observation George used for his evaluation of FrontPage.

Requirements >	Professional (x10)	Site Manager (x10)	PC Based (x10)	Easy & Quick (x5)
FrontPage	4 (40)	5 (50)	5 (50)	5 (25)

Requirements >	Support (x5)	Reliability (x3)	Updating (x3)	Cost (x3)
FrontPage	3 (15)	4 (12)	3 (9)	5 (15)

During the evaluation of FrontPage there were no requirements that could not be measured. Due to the circumstances that Microsoft does not offer an evaluation version of FrontPage, the requirements had to be observed in an online demonstration instead of personally tested. The cost of this product is \$149 coming directly from Microsoft.

FrontPage received a score of 216 out of 245 once the scores were aggregated. The package was able to fill the necessary requirements of ChatWorx very well, with a near perfect score in that category. The outstanding thing about FrontPage was its ease of use. Part of this may be the prior experiences of ChatWorx with Microsoft products such as Office. However, the support offered by Microsoft was about the industry standard. If you had a severe problem, it was probably going to cost you a few hours on the phone and a sizeable chunk of money. The upgrades were also similar to those of HomeSite. Unless you were willing to buy the new version, there were no significant upgrades available (just minor bug patches). Also, the program seemed so simple that some of the power and features seen in the other programs appeared to be lacking in FrontPage. Still, these

issues were fairly minor. There were no major problems in the fulfillment of requirements for the FrontPage program.

Microsoft FrontPage 98 is an excellent web creation utility. It does have a few minor drawbacks, but nothing that will prevent the tasks that ChatWorx expects, from being accomplished. The ease of use of FrontPage definitely makes this a program that would fit in well at ChatWorx for the time being.

Discussion and Recommendations

When looking at all three packages that have been evaluated in this process, it would appear that HomeSite is a step behind the others, and Dreamweaver has a slight edge over FrontPage. It appears as if George will select Macromedia Dreamweaver as the new web development tool for ChatWorx Systems. The tradeoff of this selection is that it will cost as much as \$300 more than some of the other packages.

Looking at the research that George has done for his company, I would have to agree with his decision. Dreamweaver is probably the most powerful of the options that ChatWorx was considering, it is easy to use with its visual environment, and the support that the company will receive from Macromedia is almost unparalleled in the COTS marketplace. Not only do they get extensive documentation and assistance, but they also receive the free upgrades for a reasonable amount of time. These extra services, plus the added power of the software in comparison to others, make the added cost very worthwhile. This is even more acceptable because the price still fits the budget that was set up for the project. Even though the interface of Dreamweaver is not as simple as that of FrontPage, it is not complicated and one can become familiar with the tutorial rather quickly. Plus the added features, such as e-commerce capabilities that may be used by the company in the future, and quality outweigh any minimal time added on for training.

In the end, I think that George made the best decision in the situation. He gets a product that fulfills the requirements of the company almost perfectly, and the product has the potential to benefit the company greatly. Great work, George! Best of luck to you and everyone at ChatWorx.